App. F. IX-4

Previous References. (1940-1 War) War File No. 81-40
Serial Nos. 1 & 2

Later Reference

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. Two only.

Part B for May 1941

SUBJECT.

Conserving of Stocks of Non-ferrous metals...

Minuted
25.6.41

1142/W — Conserving of stocks of non-ferrous metals.

General and Revenue Secretariat | W. File No. 81 of 1940-1 | [App. F. III-2

Serial No.	
1	From: The Dy Sy to the Hon'ble the Revenue Member F. 41-41/W dated 10th May 41 forwarding a copy of letter from the Deputy Controller Civil Supplies regarding conserving of stocks of non ferrous metals. Subd for perusal. Spare copies will be sent to the Secy SBC for bringing the same to the notice of all concerning Depts as desired in the Deputy Controller's letter. (RS 12/5) PR 12/5. Chief Hon 2 12/5/41 Subd with a draft and fair to the Secy SBC. (RS 13/5)
2	Issued 136/W dated 13th May 41 to the Secy SBC

NOTE—Contn. Sheet.

ENF/2501/5560/JSB.

GOVERNMENT OF INDIA.

DEPARTMENT OF SUPPLY,

ENGINEERING DIVISION.

W 81-40-1 W.142.

The reply to this communication should be addressed to the Secretary to the Resident in Mysore, Bangalore, by designation and not by name.

No. F.41-41/W.

Pol. 2825

FROM

THE SECRETARY
TO THE HON'BLE THE RESIDENT IN MYSORE.

To The Chief Secretary to the Government of His Highness the Maharaja of Mysore, Bangalore.

CHIEF SECRETARY 10 MAY 1941 GOVT. OF MYSORE.

Dated Bangalore, the 6th May *194*1.

Conserving of stocks of non-ferrous metals.

SIR,

I am directed to forward, for information, a copy* of the letter from the Government of India, Department of Supply, No.ENF/2501/5560/JSB, dated the 21st April 1941, together with the note referred to therein.

I have the honour to be,
Sir,
Your most obedient servant,

for SECRETARY TO THE RESIDENT.

*with 6 spare copies.

VN

Your most obedient servant,

S. R. ZAMAN,

Deputy Secretary to the Government of India.

[P. T. O.

Copy, with a copy of the note referred to, forwarded for information and guidance to :—

Communications Department.

Education, Health and Lands Department.

Labour Department.

Defence Department (for communication to all Branches of Army Headquarters and Air Headquarters).

The Political Department, with the request that the contents of the above be brought to the notice of all States.

The Chief Controller of Purchase (Supply), Contracts Directorate, New Delhi.

The Chief Controller of Purchase (Munitions), Contracts Directorate, Calcutta.

The Chief Controller of Purchase (Supply), Indian Stores Department, New Delhi.

The Chief Controller of Purchase (Munitions), Indian Stores Department, Calcutta.

Railway Board.

J. F. A., Department of Supply (2).

Controller of Supplies, Bengal.

Controller of Supplies, Madras.

Controller of Supplies, Bombay.

Controller of Supplies, U. P.

Controller of Supplies, Punjab.

Controller of Supplies, Sind.

S. R. ZAMAN,

Deputy Secretary to the Government of India.

April 1941.

SCRAP NON-FERROUS METALS.

Disposal and conservation of Aluminium, Copper, Brass, Bronze, Zinc, Spelter and White metal.

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1. Conservation of metal scrap is obviously of the utmost importance. In the past it has been so easy to obtain new (virgin) metal that sufficient attention may not have been given to economy of use, or to the disposal of scrap so as to avoid waste. In view of the prior claim of the services upon existing stocks and supplies, the war-time shortage of shipping space and the general rise in metal prices, consumers must not expect to obtain the quantities of virgin metals to which they have been accustomed, and in many cases they must be prepared to accept supplies of lower quality than those which they normally use.

2. In these circumstances, the conservation and utilization of scrap becomes a matter of primary importance, and it is incumbent on every user of metal to see that nothing is wasted. Strictly speaking there should be no such thing as "Unwanted Scrap". In a properly run workshop the composition of all alloys that are used should be known, and when any article becomes unserviceable, it should not be beyond the powers of the organisation to see that the worn or broken part is transferred to the appropriate scrap bin in the foundry or store, ready for re-melting with the proper additions required to bring the melt up to standard composition again. Careless mixing up of brass with bronze, gunmetal with phosphor-bronze, etc., results in the degradation of good metal to an extent that renders it beyond the power of any ordinary shop to put right.

3. Similar considerations apply to machine-shop swarf. In the past, turnings and borings have too frequently been allowed to become hopelessly mixed on the shop floor, with the result that when a number of different alloys are being handled, the mixture is of no value to anyone but the small bazar re-melter, who makes ornaments of it. This wasteful practice should not be allowed to continue, especially where high-grade alloys are concerned. With a little ingenuity and intelligent co-operation by the shop supervision, it ought to be possible to segregate swarf in the machine-shop and to see that each type of material goes to its own storage bin for recovery. Swarf is admittedly difficult to recover owing to its bulkiness and proneness to oxidization, but if the furnace charge is intelligently handled, it is not at all impossible to obtain good recovery. The secret is first to melt down a charge of massive scrap of the same composition and then to add the swarf, a little at a time.

4. Designers and those responsible for framing specifications can make a very important contribution to the organised conservation of metals, and very great care should be taken not to specify scarce or expensive material unnecessarily. In this connection only very general suggestions can be made, but a few actual cases may be put forward for guidance. Such fittings as hand-wheels, brackets, foot-rests, hand-rails, hub caps, name and number plates, etc., need not be made of brass or aluminium; in most cases cast iron would serve quite as well, and where cast iron is not considered strong enough, steel pressings or stampings, or malleable cast iron would serve. With this general introduction, the position about certain metals is briefly explained in the following paragraphs:—

5. *Aluminium.*—(*a*) There is considerable misapprehension with regard to the aluminium situation. A shortage of primary metal exists, but there are at present reserves of secondary aluminium in India sufficient to satisfy normal domestic and industrial demands. This Department's circular letter No. EMT/12337/111/JSB. of 4th October 1940, has been misunderstood and it is now made clear that the discontinuance of usage and the investigations into substitutes referred to therein, took place in the United Kingdom and not in India.

(*b*) Aluminium is unique in that very little of it is lost. It is not destroyed by corrosion as steel is, and it is only the metal used for such purposes as steel deoxidation, incendiary bombs and pyro-technics that is actually destroyed. Its scrap value is high owing to the fact that secondary aluminium can be used for

the great majority of domestic purposes ; and, with an embargo on its export, and while sufficient scrap for producing secondary metal is available in India, there is no reason why aluminium should not continue to be used for most normal purposes, certainly for those for which it is particularly fitted owing to its lightness and freedom from corrosion.

Copper.—The remarks about aluminium in paragraph 5 (*b*), are generally applicable to copper, but the fact that large quantities of copper are wasted every year by ill-considered alloying should not be lost sight of.

There is a marked shortage of certain manufactured products such as tubing which has led to a considerable rise in prices.

Brass and Bronze.—It should be the constant care of users to protect high grade material from degradation. With supplies of electrolytic copper and zinc strictly limited, it is more than ever necessary for users of high purity brass to take every possible measure to protect their scrap, scissel and swarf from admixture with baser metal and to recover every ounce of material whose analysis is known.

Zinc and Spelter.—As with copper, the highest grades should be reserved for special purposes. Metal for deep-drawing brass and die-castings, and oxide intended for white paint must be of high purity, but for the great majority of domestic and engineering purposes spelter of lower quality is entirely satisfactory. There is, for example, no necessity to call for spelter of a grade superior to G. O. B. for such purposes as galvanizing or making common brass.

White metal.—There is, at the moment, no shortage of lead, tin or antimony ; in any case, white metal alloys are among the easiest to refine and bring up to standard. No white metal of any kind should ever be discarded ; nor, given proper care, is there any truth in the superstition that re-melted white metal is in any way inferior to that made from virgin metal.

Gunmetal and Bronze.—These alloys are usually made to a fairly liberal specification, so that it is comparatively easy to arrange to use high percentages of scrap in making up mixtures. It is particularly necessary, however, to avoid mixing brass with bronze scrap, because this leads to degradation of both alloys.

6. *Conclusion.*—It should be remembered that except for antimony and copper no important quantities of non-ferrous metals are produced in India. The fact that supplies have to be imported leads to numerous difficulties ; shipping space is restricted, deliveries are uncertain, and, in nearly every case, producing countries have their own export restrictions. For real essentials, it is generally possible to arrange for supplies, but every unnecessary demand puts an unnecessary strain on shipping. Users are therefore advised to restrict their demands for new metal to bare essentials and to do everything in their power to conserve scrap for re-use, even if this causes considerable inconvenience.

MGIPC—S1——60 Dept of Supply, Cal—18-4-41—1,000.

W 81-40-2

136/W

13th May 1941.

The Secretary,
Stores Purchase Committee,
Bangalore.

Conserving of stocks of non-ferrous metals.

I am directed to forward for information and necessary action, six copies of the letter from the Government of India, Department of Supply, No.ENF/2501/5560/JSB, dated the 21st April 1941 and its enclosure, received from the Residency.

I have the honour to be,

Sir,

Your most obedient servant,

For Chief Secretary to Government